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MAY, NINETEEN THIRTY-SIX

ASBESTOS

TEXTILE PRODUCTS

made of asbestos fibre obtained from Africa, Arizona and Canada—each selected for specific qualities and properly blended to produce:—

Maximum strength and heat resistance.
Minimum iron for electrical purposes.
Non-scoring rod and valve packing.
Frictional properties in brake lining.

GARCO roving, yarn, cord, cloth, tape, tubing, rope, wick, wicking and other asbestos textile products give satisfaction because they are made of the best fibre for the particular purpose on modern equipment by skilful workmen.

Commercial Grade
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Grade AA
Grade AAA
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GENERAL ASBESTOS & RUBBER DIVISION

of

RAYBESTOS-MANHATTAN, Inc.
NORTH CHARLESTON, S. C.

..ASBESTOS..

A MONTHLY MARKET JOURNAL DEVOTED TO THE INTERESTS OF THE ASBESTOS AND MAGNESIA INDUSTRIES

A. S. ROSSITER, *EDITOR*

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16th FLOOR INQUIRER BUILDING

PHILADELPHIA, PENNSYLVANIA

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CONTENTS

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INSULATION --

the fourth in a series of articles giving the History of the Asbestos Manufacturing Industry

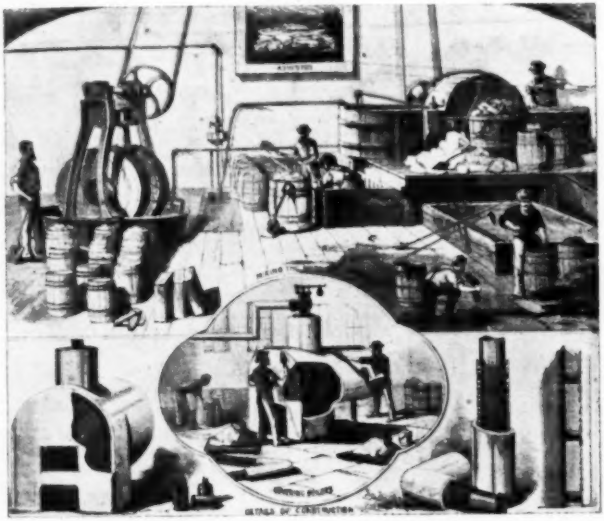
The story of insulation is even more interesting than that of brake lining or packing. In the early days when temperatures and pressures were low, coal cheap and plentiful, any old thing was used to cover the pipes. In one steamboat installation, for instance, it was found very economical to use the old carpet from the saloon, which, it happened was at that very time being replaced by a new Brussels one and the old one when used for pipe covering was therefore so much salvage. This was in 1858. Other mixtures were clay and cattle hair or other binding material; fire clay, charcoal and sawdust, ground fine, mixed with water, and cattle hair for a binder; hair felt was used extensively and one of the favorite binders was cattails.

For boilers plastic materials were used as early as 1865 but asbestos was not then known in the business. One of the first installations of cement covering consisted of a layer of plaster of Paris, covered with chicken wire, then a layer of fire clay held in place with chicken wire, the finishing being done with sand and plaster of Paris.

The indifference with which pipes were covered or left uncovered was traceable, of course, to the fact that the pressures were too low to prove troublesome, and also because little attention was paid to the conservation of heat or the saving of coal in those early days. In fact it was considered more important to keep the heat out of the engine room than in the pipes. Appearance was also more important than either the conserving of coal or heat, if we are to believe the story told of the salesman who approached a quite noted engineer in New York and endeavored to sell him covering for the pipes of a fairly large job. "Why should we cover the pipes," said the engineer, "they are very nicely painted."

The first insulation containing asbestos was used in

1866, in a material made by Robert F. Toope and consisted of asbestos fibre and silicate of soda. Curiously enough this same insulation was also the first sectional insulation material to be made. Mr. Toope's place of business was on E. 79th Street, New York City, and he



Showing the method employed in 1880 for the making and application of insulation, the photograph having appeared in the October 16th, 1880, issue of Scientific American. The method was devised by Chalmers-Spence Company (a precedessor of Johns-Manville Corporation) called "the air-space" method and, we understand was patented by that company in 1875. The insulation was made of "asbestos, hair and other materials."

sold his patent rights in the United States to the Johns Company (now Johns-Manville).

The first asbestos cement for use on boilers was tried about 1870 and contained 15% of asbestos fibre. It was made by the Chalmers-Spence Company at the foot of E. 9th Street, New York City. Magnesia Sectional Covering appeared in 1885 while the first asbestos aircell

covering was produced in Brooklyn 1898.

The discovery of the heat insulating properties of magnesia carbonate is credited to Hiram N. Hanmore, who had been in the pipe covering business for many years in a minor way. He was troubled with what the doctors then called a sour stomach and was recommended to carry with him a little piece of Carbonate of Magnesia and eat a small piece of it when he felt that his stomach was out of order. One night while sitting in a bar room in the coal mining region of Pennsylvania where he had a big job on hand, he took the Magnesia from his pocket and while toying with it suddenly realized its lightness, indicating to him that it might make a good non-conductor of heat. He walked over to the stove, which was very hot, and laid the piece of Magnesia on the top. At the end of ten minutes he picked it up and finding it was practically cool, remarked "This is going to revolutionize the pipe covering business." Some tell the story differently, but there is little doubt that Hanmore got the idea of its insulating qualities from the very light weight in proportion to the bulk of Magnesia Carbonate, and there is no doubt at all that his discovery did revolutionize the insulation business.

Hanmore found that the Keasbey & Mattison Company made Carbonate of Magnesia, and bought a quantity in order to experiment with it as a substitute for the plaster of Paris he was then using in his cement. His first patent covered a non-heat-conducting covering made of Magnesia and shredded rope. He found it very hard work, however, to chop up the second hand ship's rope, and also a very slow process. At that time he did not use enough of it to warrant putting in a machine to chew up the rope. So he next tried out silk noils and found that these gave the mixture more strength than the rope.

About this time someone told Dr. Mattison of the large orders for Carbonate of Magnesia coming from Mr. Hanmore. When one of Mr. Hanmore's workmen drove up to the Keasbey & Mattison Company's plant and asked for 1,000 pounds of Magnesia Carbonate, the shipping clerk was astounded as the largest orders previously had been for a keg containing 30 pounds or sometimes a

barrel of 60 pounds, but since the man had the cash to pay for it, the men in the shipping department got busy and packed up as much as they had on hand which was about 500 pounds — Mr. Hanmore's man said he would call the next day for the balance. When he came back he said he needed five tons. The shipping clerk could hardly believe that he had heard correctly. "Do you know how much a ton of this stuff is?" he demanded. "Why you couldn't begin to get it in your wagon." The man said he did know and would make several trips to get the full amount, which he did, paying cash each time. The clerk finally asked him what in the world he was doing with the stuff, and was told that Mr. Hanmore had

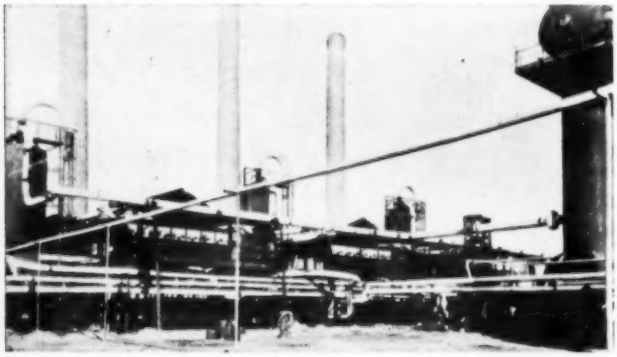


Photo by courtesy of Johns-Manville.

An up-to-date outdoor installation of insulation. The material used was J-M Asbestos-Sponge Felted with an integral waterproof jacket, and the building an oil refinery.

patented the idea of using carbonate of magnesia as a pipe covering and was at that time covering the pipes of Uncle Sam's Navy vessels which then lay in the Philadelphia Navy Yard.

This being a new idea it was promptly brought to the attention of Dr. Mattison with the final result that an arrangement was made with Mr. Hanmore for the manufacture of the covering.

At that time the magnesia mixed with silk noils was

simply put on the pipe in a plastic form but shortly afterwards Dr. Mattison took over the manufacture of the material, formed the Magnesia Sectional Covering Company and moulds were made for forming the mass into sections and blocks. Dr. Mattison, who had long been interested in asbestos as a mineral, suggested the use of the asbestos fibre instead of silk noils because the asbestos was fireproof, but it is not certain just when the change from silk noils to asbestos was made.

Insulation from heat is dependent, of course, on the air spaces found in the various materials used. Very early it was realized that hair felt was a better conserver of heat than some of the mixtures previously used, and when 85% Magnesia was first used it was found to be still better than hair felt, but just when the principle of the air spaces as the real insulator was thought out, is not known. Once the idea was formed, however, all subsequent experiments tended to confirm it. Flat asbestos paper when applied to a pipe conducts the heat with fair rapidity, but corrugated paper wrapped around the pipe lets much less heat escape. Go still farther and make the air spaces between the layers of paper smaller, as in the case of sponge felt, and this provides a still better insulation, while 85% Magnesia, where the air spaces are so tiny that they cannot be seen with the naked eye, is recognized as one of the best, if not the best, insulation on the market.

In all of these various coverings asbestos provides the fireproof feature; in 85% Magnesia it acts as a binder as well. Other materials than magnesia have been provided for use on extremely high temperatures, generally with an outer layer of magnesia, but in all asbestos serves as a binder as it is the only binder known which will withstand high heat.

Experiments are constantly being carried on to perfect insulation materials which will withstand higher and still higher pressures and temperatures. Likewise in the low pressure field there has been progress in the manufacturing of better insulation materials (aircell with a thicker and stronger covering of asbestos paper, for instance; and with what is known as a pre-shrunk asbestos

paper so that once on the pipes it will not shrink upon drying out and so expose the pipe at the joint of the covering).

A still more recent development in the low pressure field, that is in the insulation for pipes in residences and other small buildings, where neither the pressure nor the temperature is high, is the beautifying of the pipe coverings, by discarding the old canvas covering, which attracted dust, and using instead, a heavy asbestos or other paper covering, painted or lacquered in some harmonious color scheme, the idea of beauty being still further carried out by using lacquered bands of a contrasting color. Curiously enough it has been found that certain kinds of paint or lacquer, particularly those of a metallic nature—aluminum or bronze for instance — gives much better insulation than the old canvas covered insulation.

The insulation industry, particularly in the industrial field, has made tremendous progress. In the early days a big job consisted of 100 lineal feet or so of hair felt or plaster work; now one to three carloads is considered an average job, and some of the large battleships take a whole trainload and more, of insulation.

But the industry has by no means reached its zenith —the next few years should see more rapid growth and development in this section of the asbestos industry than ever before, for the potential possibilities of insulation are just beginning to be realized.

"Asbestos for Electrical Purposes' written by C. Huey, Material Engineer, U. S. Navy Yard, New York City, is a most informative and interesting article, covering History, Mineralogy, Mining and Extraction, Application and Properties of Asbestos, particularly with reference to its usefulness in the electrical field.

The article was published in the November 1935 issue of the Journal of the American Society of Naval Engineers, and reprints can be obtained from the Society (address of which is Bureau of Engineering, Navy Department, Washington, D. C.) at the nominal price of 25c each.

The Rocket Plane

Asbestos Protects the Lighter of the Fuel

Recently there was tried out at Greenwood Lake, N. Y., a rocket plane invented by Frido W. Kessler, which, on its experimental flight was to carry a cargo of mail from Greenwood Lake, N. Y., to Hewitt, N. J. The mail was in asbestos cloth mail bags, as is usual with mail carried by airplanes.

Photo by International News Photo.

Lighting the Fuel of the Rocket Plane

Willy Ley, co-inventor of the plane is shown in the photograph dressed in an asbestos suit to protect himself from any flames that might result if the experiment was not satisfactory. He held a torch to the pipe that protrudes from the rear end of the plane, this being the method of igniting the fuel and causing the explosion. But the first attempt was a failure and it was found that the oxygen pipe was frozen, the experiment having been tried in zero weather.

Repairs were made, the torch was again held to the fuel pipe. There was a flash and fumes spread but the plane still did not leave the catapult.

Another plane was put in the catapult and the torch applied. This time the hiss was many times louder, brilliant orange-red flame poured from the tail, the 450 pound cement tank was dropped releasing the catapult and the glider slid clumsily into the air to land about 100 feet away.

The inventor, Mr. Kessler, said that the right combination of fuel had not been attained. The most powerful explosive mixture known—liquid oxygen, hydrogen, gasoline, methane and alcohol, is used to propel the rocket plane. They combine with great violence, creating a continuous explosion.

While the experiment was a failure, the asbestos suit performed its function, for it protected Mr. Ley from the danger caused by fire or flame.

Having a pleasant environment is largely a matter of so regarding the environment one has.

Asbestos Research

The National Research Council of the Dominion of Canada has recently issued its Eighteenth Annual Report giving a resume of the work done by its various laboratories during the past year.

The report on asbestos, which is written by D. Wolochow and A. Van Winsen, is reprinted in the following:

"The template, mentioned in the previous report, for checking the Quebec standard testing machine, has been adopted by the Quebec Asbestos Producers' Association and is being used. Further, in connection with the standardization of the Quebec testing machine, standard conditioned samples of asbestos fibre have been supplied at regular intervals.

"A special apparatus for determining the apparent density of asbestos fibre has been designed and built. Various new lines of investigation, designed to secure a better understanding of the qualities of milled asbestos fibres and to evaluate such fibres on the basis of their physical properties have been pursued during the year. The settling rate of various grades of asbestos fibre in water has been studied and the effects of certain dispersing agents which retard this rate have been observed. An adsorption test for determining the degree of milling, or the "fibration index" of asbestos fibres has been developed; the industrial application of this test will be studied. Alternative methods devised by two of the asbestos producers were studied and reports submitted. At the request of the Quebec Asbestos Producers' Association, a series of factory tests was made to determine the relative values of open and crudy milled asbestos spinning fibres. The data obtained were analyzed and discussed in two reports submitted to the Association.

"The leaching of asbestos fibre with distilled water, free from, and in the presence of, carbon dioxide, is being studied."

MARKET CONDITIONS

General Business.

Business as a whole is undoubtedly improving.

"The developments in the business situation during the past month" says the National City May letter, "have been unsettling in some respects, since they include weakness in the stock market in this country, a major financial crisis in France, and continued strain in European political affairs . . . . . But except for these uncertainties there is evidently no occasion for revising hopeful views as to the Spring and Summer prospect. Business reports themselves have been decidedly impressive."

Asbestos. Raw Material.

The raw asbestos market is pleased with the improvement shown recently and fairly optimistic as to the trend of this market during this present year, altho as mentioned by Robert W. Steele President of Asbestos Corporation Limited, in his address at the annual meeting of the Corporation, continued improvement is "dependent on so many factors in so many widely divided sections of the world, that it is impossible to make any intelligent forecast."

Asbestos. Manufactured Goods.

Textiles. Demand is good but prices continue entirely too low. Some hope can be seen in the possible passing of the Ellenbogen Bill to control all Textiles under a little N. R. A. More hope lies in a better spirit of cooperation among manufacturers and dealers. A pricing system having *cost* as a basis instead of a pricing system based on almost everything and anything *except* cost, would solve most of the difficulty.

Brake Lining. Automobile sales being on the increase and the automotive industry most optimistic, this market is looking forward to a good year. Sales of motor vehicles during the recent spring months have exceeded expectations, even tho spring is one of the best selling periods in the industry.

Insulation. High Pressure. Demand continues fairly

good altho reports from the field as to contemplated new work are not so encouraging. The volatile temperament of the American people is beyond understanding. A few months ago all was rosy, everybody was optimistic, business was on the upgrade and no clouds were in the sky. Now, in the past two months it is remarkable how many people have found a full pack of blue cards with no red ones at all. We believe that no amount of complaining can stop the forward press of business.

Insulation. Low Pressure. There has been slightly better demand both in this market and in the Paper and Millboard market, due probably to increased activity in building. Prices remain about the same.

Asbestos-Cement Products. The market on asbestos shingles continues steady with prices firm and a good demand running substantially ahead of last year in volume. There is also a satisfactory increase in the demand for industrial products such as flat and corrugated asbestos sheets.

The above are opinions of men closely in touch with field conditions in the various lines. All comments on market trends and factors are welcomed.

Glass Yarn And Textiles

How many of you textile makers have studied the possibility of supplantive materials?

Artificial or laboratory asbestos is too expensive. Recently, however, there has appeared in many publications, references to glass yarn, cloth and textiles generally. How expensive such products might be, certainly we do not know. It does seem, however, that if such material had sufficient tensile strength it might be used to advantage in some places which now employ asbestos.

This world does move and supplantive materials are constantly being developed by the chemist.

It behooves us all to keep constantly on the alert to the rapid changes in industry.

Possibly a symposium of ideas would help. If so, let us have your thoughts and experiences; we will put them together without identification, and give you the result.

Tax Proposal Attacked

Fred Schluter, of Thermoid, Protests Before the Committee of Ways and Means

The National Association of Manufacturers directed its attack on the proposed taxing of undistributed income and the so-called "windfall" tax at a hearing before the Committee on Ways and Means now considering the measure. One of the three individuals selected to represent the Association in registering its protest was Fred Schluter, President of Thermoid Company, Trenton, N. J. He is a member of the Government Finance Committee of the Manufacturers Association. These tax proposals were incorporated in the message of the President to Congress under date of March 3rd.

Mr. Schluter began his statement by warning that the levying of this tax would establish a dangerous precedent. "We submit," he said, "that the taxing system should not be used as a penalty measure. We are opposed to a tax which in substance says to the tax payer that he might as well pay a tax which is imposed regardless of its constitutionality, because if he challenges the constitutionality of the tax and is successful he will then be assessed the amount of the unconstitutional tax in a new tax."

To make any tax bill less burdensome on industry and more workable administratively, Mr. Schluter suggested that it contain the following provisions:

1. Tax rates on money used to pay off bank indebtedness should not exceed the present rate of 15%.
2. New companies be allowed to accumulate earned surplus up to 25% of paid-in capital at a rate not higher than 12½%.
3. Tax exemptions on low rates be made for undistributed earnings in the form of non-liquid assets or inventory.

He further criticized the provision which would allow taxation of dividends declared out of surplus which pre-

viously had been taxed as undivided profits, showing that this would result in double taxation.

Mr. Schluter concluded his remarks by saying, "It is economically unsound to consider manufacturing profits without realizing in this connection the importance of inventory, accounts receivable and their relations to both profits and losses. A taxable profit should not be created by fiat of law, regardless of whether or not actual operating profit has been made, and we therefore suggest that further consideration should be given the necessity and practicability of making special tax allowances for undistributed earnings which actually exist in non-liquid assets or earnings."

THE RUBBER INDUSTRY--
Finds a new Cloth

"Asbestos fibre has many properties which are of interest in the Rubber Industry, particularly as regards fire resistance, and also long life under certain manufacturing conditions.

"Use has been made of the material for certain heavy type cloths, usually in conjunction with cotton, but the development of its use in wrapping cloths, for example, has been held up, because of the coarseness of the yarn. This matter has been discussed in these columns before and it has been pointed out that provided a reasonably fine texture cloth could be obtained an asbestos material, or an asbestos-cotton material, would prove of great interest in this connection.

"There is no doubt that an asbestos cloth is much more resistant to the effects of steam in open cure work than is cotton, and the expense in a general mechanical shop of replacing wrapping cloths, which have been torn or otherwise damaged thru gradual weakening of the fabric in repeated vulcanization processes, is considerable. A new material giving longer life for this purpose would be extremely valuable."

The above item appeared in the March 14th issue of the India Rubber Journal. In the March 28th issue the Journal publishes a letter received from one of its readers commenting on this subject. We reprint the letter (which was written by F. N. Pickett, Managing Director of Con-

solidated Rubber Manufacturers, Ltd.) and would be glad to receive comments on the subject as well as samples of the cloth to which reference is made.

"We have just received samples of a new asbestos fabric and yarn from the United States Rubber Company that seems to us to fill the requirements you specify. Our friends inform us that the yarn was invented and developed in their own laboratories after repeated attempts to obtain a satisfactory asbestos conveyor belt for use in a system of continuous vulcanizing.

"We understand that the difficulty which had to be overcome was due to the fact that asbestos could only be 'roved' and that it was impossible to 'draft' it satisfactorily so that the yarn was to all intents and purposes a spun roving, and it was necessary to prepare a different size of roving for the production of each different size of yarn. It seems that the so-called spinning of asbestos yarn is merely a twisting operation.

"Asbestos yarns are therefore uneven, rough, loosely compacted and relatively coarse, and can only be made at relatively low speeds. Fine counts seem to be impossible, and the maximum twist about 17 turns per inch.

"In the samples before us these objections seem to have been overcome in a satisfactory manner. The yarns are of more uniform size and quality, of greater strength and compactness and better balance. We are informed that they are cheaper to produce and can be manufactured to finer gauges and higher twist than has hitherto been considered possible. It has, for instance, been found possible to obtain an asbestos yarn of .007 inches gauge having considerable strength. In other words, it is now possible to produce 135 'cut' yarn (13,500 yards to the pound) comparable in size to ordinary sewing cotton.

"A direct comparison between present day commercial 8 cut yarn (actual) and a similar 8 cut yarn (actual) produced under the new process gave the following results:

Type of Yarn	Yarn Cut Size (actual) B	Strength in lbs. A	Relative Strength A × B	% Elongation at Break	Gauge (inch)	Twist Per inch
Commercial Yarn	8	2.1	17	6.1	.056	6
New Yarn	8	8.1	65	3.0	.030	6

Commercial yarn of gauge .040 in. had a strength of only 1.4 lb.

"The yarn is being manufactured on a semi-commercial scale in the Passaic plant of U. S. Rubber Company.

"It is possible that arrangements will be made for the manufacture of this new asbestos yarn in this country (England) and on the Continent. We shall be glad to hear from any spinners and weavers who might be interested in this process, for which patent protection has been sought."

Durant Insulated Pipe

The New Outdoor Insulation

The Ehret Magnesia Manufacturing Company of Valley Forge, Pa., is at present engaged in building a new plant for the manufacture of Durant Insulated Pipe, known as D. I. P.

D. I. P. is a new underground and outdoor insulated pipe and its most interesting feature is the fact that the insulation is placed around the pipe at the factory and this insulated pipe delivered to the job. After the material is delivered, all that is necessary, so far as insulation of the pipe is concerned, is to complete the joints.

The complete unit consists of the specified pipe next to which is applied the specified insulation in proper thickness; a thick, air-tight coating of non-porous asphaltum is placed over the insulation, and then, as a protection from surface damage the entire unit is encased in a galvanized metal jacket. The complete unit is built up at the factory by skilled workmen and shipped to the job in standard or special pipe lengths.

As can readily be seen, the field application of this system of underground and outdoor insulation is very simple; when used underground no tile, brick, masonry nor concrete work is necessary; in fact nothing but piers to support the pipe in case the bottom of the trench settles.

When used outdoors on overhead lines Durant Insulated Pipe is simply supported on towers, no other treatment being necessary.

Since practically no skilled labor is necessary the cost of application is very low and it is claimed that the system also reduces maintenance costs. There are other advantageous features.

The Ehret Company will gladly supply further information upon request.

LITTLE LESSONS IN SELLING

Something in the Prospect's Hands

By J. T. Bartlett

An actor, without the benefit of stage properties, would find the task of winning his audience at least doubled. Salesmen need properties, too. The most fundamental principle of all is to get a property, related to the sale, in the prospect's hands. Often, of course, it is a sample of some sort.

When samples cannot be used, however, it is still possible to put something in the prospect's hands—and very effective to do so. One plan shows the clever possibilities.

The salesman, with pieces of heavy white cardboard, about 12 inches by 16 inches, prepares a condensed outline of his canvass. Across the top of the card, in large letters, is placed the succinct statement of a basic truth. Below—one, two, three fashion—the salesman amplified the principal arguments with brief statements.

He does it with all cards, taking care that the number of words on each is actually rather brief. In certain cases, he may illustrate his point with a sketch or chart.

He introduces the cards in his canvass, and holding one where the prospect readily reads it, amplifies it, using a pencil as a pointer. Thru with the card, *he hands it to the prospect.* In this fashion, he disposes of the other cards.

Strange as it seems, there are crack salesmen—noted men in their territories—who positively will not attempt to canvass a prospect without the clever use of selected properties. The principle is an important one. If a problem exists, ingenuity will solve it.

The best introduction to any businesss executive—introduce new ideas.

CONTRACTORS AND DISTRIBUTORS PAGE

Asbestos Paper as a Fire Resistant

Asbestos Paper between floors as a fire resistant may not be an especially new use but it is an important one, both from the standpoint of the house owner, and of the handler of asbestos paper to say nothing of the manufacturer.

Where the side walls of a room are of fireproof or fire resistant materials, the addition of asbestos paper under the floor—that is, between the sub-floor and finish floor—will confine a fire to one room for several minutes, long enough to get the Fire Department into action.

We do not know to just what extent asbestos paper is sold for this purpose at present, but it would seem quite worth while to give some publicity to this use among architects, contractors and builders, as undoubtedly the square footage would amount to a fair figure with the increase in building contracts.

A little pushing might develop quite a nice business in Asbestos Paper for this purpose.

And it is very possible that other uses of asbestos paper in the modern house can be found, the total square footage being quite worthwhile.

Cleveland Real Property Inventory

The City of Cleveland takes a complete inventory, annually, of every house, every lot and every building, every movement of every family and the numerous other details necessary for scientific self-analysis.

This inventory shows important trends not available from any other source.

For instance the report shows Cleveland already suffering the extreme housing shortage being predicted for so many large urban communities. Only 3 per cent of the 314,220 family units in the entire metropolitan district remain vacant and many of the vacant dwellings are uninhabitable.

On the other hand there still remains a 28 per cent vacancy in Greater Cleveland's office buildings — 4,710 of the total 16,602 office units are vacant (or were at the time of taking the inventory).

While the inventory covers only one large metropolitan district, it is surely an indication of what is happening thruout the country.

Complete statement giving the highlights of the 1936 report, from which statement the above two paragraphs have been quoted, may be read in the office of "ASBESTOS" or borrowed from us for perusal.

Building

March construction records, despite severe winter and harsh floods, showed a total value 40 percent higher than was reported for February and about 62 percent ahead of the March 1935 volume. According to figures of F. W. Dodge Corporation covering the 37 eastern states March construction contracts totaled $199,028,300 as compared with $142,050,200 for February and only $122,940,500 for March 1935.

Increases in construction were shown for residential and non-residential building as well as for heavy engineering types. Gains over last year were well distributed geographically, with each of the 13 major districts east of the Rockies participating, except the New Orleans Territory (Mississippi and Louisiana). Increases in construction as compared with February 1936 totals were shown for each district except New England, where flood conditions were severe, and in the New Orleans Territory.

For the first quarter of 1936 total contracts for all classes of construction in the 37 states as a whole amounted to $545,871,300 as against only $297,761,500 for the corresponding quarter of 1935.

First Quarter Contract Totals by Classes—37 Eastern States

	1936	1935	% Increase
Residential Building	$123,885,600	$71,236,400	%75
Non-Residential Bldg.	234,551,000	108,047,800	118
Public Works & Util.	187,434,700	118,477,300	60
Total Construction	$545,871,300	$297,761,500	83

A difficulty isn't something to stop at. It indicates the worthwhileness of going on.

It's a favorable or an unfavorable factor according to whether it prompts us to quit or to redouble our efforts.

Automobile Production

Automobile production in the United States and Canada for March 1936 totalled 442,545; compared with 451,768 in March 1935.

It will be seen that March production showed an increase over February, the February 1936 production being 304,232.

For the first three months of the year, the total in 1936 was 1,127,331; in 1935 1,108,941, and in 1934, 754,011.

Africa (Rhodesia)

(Statistics published by Rhodesia Chamber of Mines)

	February 1936 Tons (2000 lbs.)	Value	
Bulawayo District			
Nil Desperandum (Afr. Asb. Mng. Co. Ltd.)	310.70	£ 5,943	8 11
Shabanie (Rho. & Gen. Asb. Corp., Ltd.)	3,714.33	56,055	7 4
Victoria District			
D. S. O. (Mashaba Rho. Asb. Corp., Ltd.)	65.00	826	.. ..
King & Gath's (Rho. & Gen. Asb. Corp. Ltd.)	600.90	7,916	17 2
	4,690.93	£70,741	13 5
February 1935	*3,122.53*	*£39,003*	*16 3*

Africa (Union of South)

(Statistics published by Dept. of Mines & Industries of U. of S. A.)

	February 1935 Tons (2,000 lbs.)	Value	February 1936 Tons (2,000 lbs.)	Value
Transvaal				
Amosite	740.10	£7,430	478.08	£4,136
Blue	.....	.....	20.00	263
Chrysotile	1,300.90	9,761	1,567.18	14,515
Cape				
Blue	177.56	2,881	204.46	3,452
	2,218.56	£20,072	2,269.72	£22,366

Canada

(Statistics published by Bureau of Mines, Province of Quebec)

	February 1935 Tons (2,000 lbs.)	February 1936 Tons (2000 lbs.)
Fibre	11,844	17,038
	March 1935 Tons (2000 lbs.)	March 1936 Tons (2000 lbs.)
Fibre	11,816	16,225

Imports into U. S. A.

(Figures published by U. . Dept. of Commerce)

Unmanufactured Asbestos	February 1935 Tons (2240 lbs.)	February 1936 Tons (2240 lbs.)
Africa (Br. S.)	2	65
Canada	8,189	11,602
Cyprus, Malta & Gozo	.....	324
Germany	1,117	.....
Italy	1	34
Soviet Russia	.....	223
	9,309	12,248
Value	$327,693	$442,311
Tabulation by Grades:		
Crude (Br. S. Africa)	2	65
Crude (Canada)	79	143
Crude (Italy)	1	1
Mill Fibre (Canada)	3,844	4,720
Mill Fibre (Germany)	1,117	.....
Mill Fibre (Soviet Russia)	.....	223
Lower Grades (Canada)	4,266	6,739
Lower Grades (Cyprus, Malta & Gozo)	.....	324
Lower Grades (Italy)	.....	33
	9,309	12,248

Manufactured Asbestos Goods:	February 1936 Pounds
Austria (Packing Fabric)	510
Belgium (Woven Fabrics)	1,440
Canada (Packing Fabric)	75
France (Packing Fabric)	238
Germany (Woven Fabrics)	300
United Kingdom (Yarn)	3,766
United Kingdom (Packing Fabric)	2,102
	8,431

Various other asbestos manufactures (not classified by the U. S. Dept. of Commerce) were imported to the value of $1,778, these coming from Czechoslovakia, Germany and the United Kingdom.

Total Value Manufactured Asbestos Goods imported was

In February 1935 — $1,484

In February 1936 — 6,263

Exports from U. S. A.

(Figures published by U. S. Dept. of Commerce)

Exports of Unmanufactured Asbestos during the month of February 1936 amounted to 212 tons, valued at $35,287; compared with exports during February 1935 of 37 tons, valued at $2,927.

Exports of Manufactured Asbestos Goods:

	February 1935		February 1936	
	Pounds	Value	Pounds	Value
Paper, Mlbd. and Rlbd.	33,593	$ 4,763	55,368	$ 7,036
Pipe Covg. & Cement	359,729	29,272	284,444	16,395
Textiles, Yarn and Packing	110,537	48,617	106,222	60,039
Brake Lining				
Molded and Semi-molded	.....	54,893	.....	52,482
Not Molded	113,301[1]	15,784	147,967[1]	18,153
Magnesia and Mfrs. of	62,401	7,712	205,978	14,173
Asbestos Roofing	3,819[2]	5,946	3,659[2]	12,011
Other Mfrs.	177,844	15,310	135,632	16,232

[1]Lin. Ft. [2]Sqs.

Exports of Raw Asbestos from Canada

(Figures published by Dominion Bureau of Statistics)

	March 1935		March 1936	
	Tons (2000 lbs.)	Value	Tons (2000 lbs.)	Value
United Kingdom	125	$ 9,920	110	$ 5,375
United States	5,100	256,034	6,084	331,419
Austria	.....	15	.....	.....
Australia	105	5,208	101	4,885
Belgium	.....	100	240	18,390
Czechoslovakia	.....	55	.....	.....
France	119	13,438	43	4,377
Germany	64	13,675	1,047	65,937
Hungary	.....	10	.....	.....
Italy	82	6,620	50	2,137
Japan	940	37,638	1,860	68,851
Poland	.....	5	44	2,860
Spain	44	1,815	66	3,930
	6,579	$344,533	9,645	$508,161
Sand and Waste				
United Kingdom	35	735	65	835
United States	5,789	82,937	9,674	154,128
Belgium	.....	.....	30	297
France	.....	.....	30	750
Germany	.....	.....	33	396
Sweden	.....	.....	33	363
	5,824	$ 83,672	9,865	$156,769
Grand Total	*12,403*	*$428,205*	*19,510*	*$664,930*

Imports and Exports by England.

Imports of Raw Material:

	March 1935		March 1936	
	Tons (2240 lbs.)	Value	Tons (2240 lbs.)	Value
From Africa (Rhodesia)	1,091	£25,994	1,611	£32,587
From Africa (U. of South)	814	10,189	1,042	15,184
From Australia	18	260	20	296
From British India	2	100	....	....
From Canada	71	1,393	152	1,135
From Cyprus	4	20	....	....
From Finland	8	50	10	67
From Italy	5	280	....	....
From Soviet Russia	10	381	46	1,221
From U. S. of America	....	.....	....	2
	2,023	£38,667	2,881	£50,492

Exports of Asbestos Manufactures:

	March 1935		March 1936	
	Cwts.	Value	Cwts.	Value
Irish Free State	3,463	£2,594	3,217	£3,176
British India	1,652	4,911	4,202	8,856
Australia	655	4,479	947	5,862
Other British Countries	9,359	14,847	11,211	23,222
Netherlands	858	3,201	1,778	4,518
Belgium	402	2,734	554	3,481
France	590	2,691	536	3,101
Italy	399	2,758	.....	.....
Other Foreign Countries	13,111	33,642	7,828	27,663
	30,489	£71,857	30,273	£79,879

ASBESTOS STOCK QUOTATIONS

			April 1936		
	Par.	Div.	Low	High	Last
Asbestos Corp. (Com.) New V T.	np		22	29	29
Certainteed (Com.)	np	–	12¾	19⅛	13½
Certainteed (Pfd.)	100	7	85½	99½	92
Johns-Manville (Com.)	np	–	93	115½	96
Johns-Manville (Pfd.)	100	7	122	125⅞	125
Raybestos-Manhattan (Com.)	np	1.00	30	38¼	31
Ruberboid (Com.)	np	1	74¾	101½	85
Thermoid (Com.)	np	–	9⅛	11	9⅝
Thermoid (Pfd.)	100	7	55½	63	59¾

NEWS OF THE INDUSTRY

Birthdays.

Sumner Simpson, President, Raybestos-Manhattan, Inc., Bridgeport, Conn., May 17th.

Guy George Gabrielson, President, Sall Mountain Company, New York City, May 22nd.

Thomas J. S. Nicely, President, Nicely Corporation, Philadelphia, May 25th.

George V. Hamilton, of George V. Hamilton, Co., Pittsburgh, Pa., May 26th.

Giles Newton, Managing Director, Cape Asbestos Co., Ltd., London, England, May 27th.

M. S. Sprague of Standard Asbestos Co., San Francisco, Cal., May 29th.

F. E. Schluter, President, Thermoid Company, Trenton, N. J., May 31st.

F. H. Shipe, President Asbestos Covering & Roofing Co., Washington, D. C., May 31st.

Augustus S. Blagden, President, Keasbey & Mattison Co., Ambler, Pa., June 2nd.

Phil. Ziegenfuss, Vice President and Treasurer, Insulating & Materials Co., St. Louis, Mo., June 2nd.

J. L. Pritchard, Asst. Sales Manager, Emsco Asbestos Co., Downey, Cal., June 7th.

Walker Jamar, President, Walker Jamar Co., Duluth, Minn., June 11th.

Howard Snow, President, Southern Friction Materials Co., Charlotte, N. C., June 11th.

Chester H. Braselton, President, Worldbestos Corp., Paterson, N. J., June 14th.

George I. Hesslein, Treasurer, Insulations, Inc., Cambridge, Mass., June 14th.

W. R. Seigle, Chairman of the Board, Johns-Manville Corp., New York City, N. Y., June 14th.

To all of these gentlemen we extend congratulations and best wishes.

Mohawk Asbestos Shingles, Inc., Syracuse, N. Y., manufacturers of certain special types of asbestos-cement products, plans a reorganization of the company.

Standard Asbestos Covering Co., Inc., on April 1st moved its office from Congress street to a newly erected office space at 40 Farnsworth Street, Boston. They have also arranged for desk room at the Builders & Traders Exchange, 75 Westminster St., Providence, R. I., to take care of their trade in that vicinity.

Asbestos Insulating Materials Inc., Milwaukee, Wis. R. H. Bergman has been elected Vice President to succeed George Heiser, deceased.

Johns-Manville Corporation. Report for the first quarter of 1936 has been received from Johns-Manville and shows the following comparing with the first quarter of 1935.

	First Quarter ended	
	Mar. 31, 1935	Mar. 31, 1936
Sales	$6,447,415.41	$7,965,541.09
Less Manufacturing Cost, Selling and Administrative Expenses	5,697,873.33	7,243,100.82
Profit before Depreciation, Depletion and Income Taxes	749,542.08	722,440.27
Less Depreciation and Depletion	446,595.58	474,310.56
Profit after Depreciation and Depletion	302,946.50	248,129.71
Less Income Tax Accrual	56,368.31	71,365.20
Profit after Income Tax Accrual	246,578.19	176,764.51
Profit per Common Share	.15	.06

This statement does not include profits of $37,494 earned during the first quarter of 1936 nor does it include profits of $21,067 earned during the first quarter of 1935, by Johns-Manville Credit Corporation, a wholly owned subsidiary organized October 4, 1934.

The Ruberoid Purchase Corporation, the building loan subsidiary of The Ruberoid Co. reports a gain of fifty percent in the first quarter of 1936 over the corresponding period of 1935 in the number of loans made, largely to home owners for the improvement of properties located in virtually every section of the United States, according to Walter B. Harris, president.

Of even greater significance as a reflection of improving conditions in the building industry is the fact that the dollar volume of loans in the first quarter of 1936 showed an increase of more than 80 per cent over the first three months of last year, the difference being accounted for by the fact that the average amount of the individual loan increased from $309 to $376, or 22 per cent.

"Building activity is ordinarily at its lowest level during the first quarter of the year," Mr. Harris said, "and the exceptional gain this year over last may be attributed in large measure to the low-interest monthly-payment loans made possible by the insurance provisions of the Federal Housing Act. There is every reason to believe that the gains made during the first quarter will be maintained, and probably increased during the balance of the year."

Asbestos Corporation Limited held its annual meeting on April 16th, at which meeting was reported an increase in sales for the first three months of the year over the corresponding period of last year.

R. W. Steele, President and Managing Director, in address-

ing the meeting, paid tribute to the company's late president, Col. Robt. F. Massie, and contrasted the physical and financial position of the company when Col. Massie assumed direction in 1929 with the comparatively satisfactory position now shown.

"When Colonel Massie assumed the direction of the company in 1929 its affairs were in a serious condition, both physically and financially. Physically the Kings Pit — the company's chief mine — had become apexed and a large slide of rock was evidence of the end of open pit mining in that deposit. No other large deposit suitable to take its place had been exposed and underground mining as then practiced at other properties was expensive and not likely to be profitable.

"It was therefore, difficult to know which way to turn to put the properties of the company in a proper operating condition. Financially large expenditures had been made or contracted for on milling plants and stripping and the financial markets were such that these expenditures could not be found, with the result that current assets were depleted and a bank loan incurred which eventually reached $1,000,000.

"These conditions were serious enough in themselves without the business depression which commenced in 1929 and reached its most acute stage, insofar as the Asbestos business was concerned, in 1932. As an indication of how seriously this business was affected, the sales of this company went down in 1932 to about one-sixth of the 1929 figure and they are still less than one-half.

"Keeping these circumstances in mind compare this with the position today. Physically your properties are in splendid operating shape. A new method of underground mining has been developed, which allows the recovery of ore from the sides and deeper levels of the King Pit. Not only has this development made available a large body of ore not mineable by open pit methods but mining can now be done on a very economical basis in winter as well as summer. The present known ore in the King's mine should last for at least 15 years, at the full consumption of the King's Mill and probably much more.

"On the financial side, the bank loan of $1,000,000 has been repaid and Current Assets now exceed Current Liabilities by about $740,000. These things have been accomplished by Colonel Massie and the men with whom he surrounded himself."

Shareholders expressed particular appreciation of the work being done by the company's manager, James G. Ross.

No change in the directorate was made.

Thermoid Co. H. L. Conover, formerly Manager of the Chicago Warehouse of the Thermoid Company for a number of years, has been promoted to the position of Manager of Finished Goods Stores. His previous experience has well qualified him for his new position. The greatly increased business of the Thermoid Company makes maintenance of adequate merchandise stocks an

important responsibility, and was a determining factor in selecting a man of Mr. Conover's experience for the position.

R. W. Case, Jr., has been appointed Advertising Manager of the Thermoid Company to succeed E. V. Carlquist. Mr. Case held the position of Assistant Advertising Manager for two years prior to his promotion.

Rockbestos Products Corporation of New Haven, Conn. has recently added Elwin A. Mansfield to its New York Office sales staff.

J. C. Wise, formerly salesman in the New York Office, has been appointed Manager of the Cleveland Branch Office, effective May 15th.

B. H. Reeves, formerly General Manager, has been elected Vice President and General Manager.

K. A. Redfield, advertising manager, has bee n appointed Assistant General Sales Manager as well, Mr. Redfield continuing to handle the advertising of the company.

The Union Asbestos & Rubber Company of Chicago, Ill., announces the acquisition of additional property, comprising approximately 100,000 square feet, immediately adjacent to their present factory location in Cicero, Ill., and construction has been started on new buildings to provide for expansion of their present facilities in their Automotive and Insulation Departments. An appropriation of $250,000 to cover the cost of this project has been provided, and it is expected that the new additions will be completed and ready for operation within three to four months.

Johns-Manville Corporation. Lewis H. Brown, President of Johns-Manville, on April 28th, spoke before the convention of the Chamber of Commerce of the United States. His subject was "Increasing Employment by Private Enterprise." Mr. Brown brought out a number of interesting points.

United States Asbestos Division, Manheim, Pa. April sales of Grey-Rock Products to the jobbing trade were larger than any previous month in their history. The first four months' sales likewise are considerably ahead of the same period in any preceding year.

PATENTS

Machine for Manufacture of Continuous Sheets of Asbestos Cement Reinforced With Wire Netting. No. 2,033,805 Granted on March 10 to Arie Hermannus Arentsen, Amsterdam, Netherlands, assignor to N. V. Handel-en Exploitatie Maatschappij in Octrooien van gewapende asbestcement-production Ferrocal, Amsterdam, Netherlands. Application June 16, 1933. Serial No. 676,044.

A method of making continuous sheets of asbestos cement reenforced with iron wire netting consisting in passing wire netting through a casing containing asbestos cement in a substantially horizontal direction through a plurality of pasting rollers having shells constructed of wire netting and subsequently passing the pasted sheet in an upward direction to and through pressing rollers substantially as described.

Article of Manufacture. No. 2,033,923. Granted on March 17 to Simon Collier, Waukegan, Ill., assignor to Johns-Manville Corporation. Application October 28, 1922. Serial No. 640,135.

In making an article of manufacture comprising discrete fibres, a heat resistant precipitate therein and a binder adhering the whole into a unitary product, the method which comprises intimately mixing discrete fibres with an undissolved and only slightly soluble substance, then mixing therewith the other of the said substances in form adapted to produce a precipitate with the substance first mixed with the fibres, rendering the mixture of the fibres and precipitate suitable for blending with a binder, adapted to be hardened, blending the resulting mixture with the binder, converting the blended product to form desired and hardening the binder therein.

Treated Fabric. No. 2,033,928. Granted on March 17 to James Driscoll, Plainfield, and Donald S. Bruce, Somerville, N. J., assignors to Johns-Manville Corporation, New York City. Application December 23, 1931. Serial No. 582,872.

A friction element adapted for the use as automotive brake lining and the like comprising asbestos fibers, a water-insoluble, heat-resistant, dried inorganic compound, and an impregnating friction material bonding the fibers into a unitary product, the said compound being distributed substantially uinformly throughout the fibers and being in the condition of having been precipitated therewithin, by the interaction of a water-soluble silicate upon a compound of a metal associated with the said fibers previous to the application of the water-soluble silicate, and the said compound of the metal being only slightly soluble in water and adapted to form a precipitate with the water-soluble silicate.

Friction Element. No. 2,033,929. Granted on March 17 to James Driscoll, Plainfield, and Donald S. Bruce, Somerville, N. J., assignors to Johns-Manville Corporation, New York City. Application October 28, 1932. Serial No. 640,134.

A friction element comprising heat resistant fibres, a water insoluble, heat resistant inorganic substance precipitated in intimate association with said fibres and a friction compound including a binder and an admixed anti-scoring agent, adhering the whole into a unitary product, the anti-scoring agent being a high melting, relatively volatile solid, adapted, at elevated temperatures of use of the friction element to modify the hardness thereof and provide lubrication.

Improvement in Coating Device. No. 2,034,755. Granted on March 24 to Charles W. Fuller, Houston, Texas, assignor to Johns-Manville Corporation. Application October 29, 1931. Serial No. 571,790.

A device for applying protective material to an outside of a pipe, including a shoe shaped, etc. Further description upon request.

Friction Clutch Member. No. 2,035,916. Granted on March 31 to George E. Pope, Bridgeport, Conn., assignor to Raybestos-

Manhattan, Inc., Bridgeport, Conn. Application December 6, 1933. Serial No. 701,162.

Description upon request.

Thermal Insulating Tape. No. 2,035,950. Granted on March 31 to Charles K. Dillingham and Phillip D. Cannon, Plainfield, N. J., assignors to Johns-Manville Corporation. Application June 21, 1933. Serial No. 676,832.

A thermal insulating tape comprising a core of flexible insulating material, a woven sheath disposed around the insulating material and filled thereby, an edge flange of one-ply thickness extending laterally from the filled sheath, that is thin and integrally woven and that is continuous with both the face and back of the sheath and an opposite edge that is thick whereby the tape is adapted to be wrapped around an object in a plurality of turns with the thin edge of one turn and the thick edge of another turn in overlapping relationship, said thin edge containing approximately the same number of interwoven strands for a given area as the face or back portion of the sheath taken singly.

Moisture and Heat Resistant Article. No. 2, 035,970. Granted on March 31 to John C. MacIldowie, Nashua, N. H., assignor to Johns-Manville Corp. Application April 24, 1933. Serial No. 667,679.

In making a plate adapted to support objects in a baking furnace at moderately elevated temperatures, the method which comprises forming a compressed and hardened sheet, including asbestos and Portland Cement, abrading a surface of said sheet to increase the porosity of the surface and facilitate impregnation, impregnating into the abraded sheet a moisture and heat resistant sealing material, heating the impregnated sheet to establish the warp therein and then cooling and abrading the warped product to provide a surface of desired contour.

Molded Electrical Insulating Parts. No. 2,036,825. Granted on April 7th to William Edward Pattman, Olton, England, assignor to Bakelite Limited, London, England, a British Company. Application March 25, 1931. Serial No. 525,346. In Great Britain, March 27, 1930.

In an electrical apparatus, including an electrical circuit, means for breaking the circuit and an electrical insulation for said means whose surface is subject to the carbonizing effect of arcing caused by the breaking of the circuit, said insulation surface comprising a composition molded under the action of heat and pressure from a thermo setting composition having as a binder an amino plastic for a fibrous filler selected from the group of wood meal, paper pulp, asbestos, cotton flock and characterized by resistance to arcing.

Pipe Wrapping Machine. No. 2,036,887. Granted on April 7th to Eugene L. Rolfs, Clayton, assignor to Johns-Manville Corporation, New York. Application July 13, 1932. Serial No. 622,260. Description upon request.

THIS and THAT

Asbestos flat sheets are used quite extensively in New Zealand for exterior paneling with battens, especially for seaside homes.

They are also commonly used for interior partitions and in places where fireproof materials are desired. Australia is practically the only source of supply for this material and appears to be in a strong position to hold the market owing to the preferential tariff which subjects British made asbestos materials to a primage tax of 3 per cent ad valorem, whereas non-British asbestos imports must pay a duty of 15 per cent ad valorem plus a surcharge of 9/40ths of the duty.—*Foreign Metals and Minerals of issue April 15, 1936 (Published by the U. S. Dept. of Commerce).*

One of the most successful methods to cultivate unhappiness is to devote your time to pleasing yourself.

D. Landale Frew, F. S. I., (Civil and Mining Engineer) of 90 Mitchell Street, Glasgow, Scotland, has written a most informative article on "Asbestos Mining in Rhodesia."

The article was published in the Mining Electrical Engineer, and later reprints in pamphlet form run off.

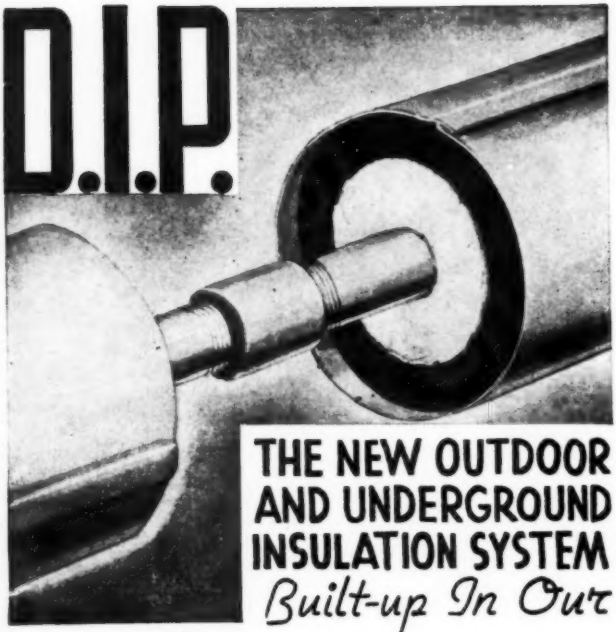
It covers Occurrence, Varieties of Asbestos, Yield per Ton, Mining Procedure, Market Standards, Prospects in Southern Rhodesia.

"ASBESTOS" will be glad to lend the article to anyone interested, or perhaps Mr. Frew will supply copies upon request.

The Semi-Annual Meeting of the A. S. H. V. E. (American Society of Heating and Ventilating Engineers) will be held at The Inn, Buck Hill Falls, Pa., June 22nd to 24th inclusive, when the Philadelphia chapter will act as host to the Society and a joint session will be held with the American Society of Refrigerating Engineers.

Money will buy a good dog but it won't buy the wag of his tail.

D.I.P.



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A FATHER'S ADVICE

(From "Hot Stuff" published by the Cortright Coal Co. of Philadelphia)

My son, never speak unkindly of price cutters. Never knock them. Because God made them the same as he made crabs, hornets, lizards, ants, roaches, centipedes, fleas, lice, bugs, wasps, skunks and other unpleasant creatures. In His inscrutable wisdom He made them. *Why* He made them only He knows. Some day He may enlighten us, but up to now I'll be damned if I understand.